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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,314	09/02/2008	Takaki Sugimoto	59598US005	6786

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EXAMINER	
BODAWALA, DIMPLE N	
ART UNIT	PAPER NUMBER
1743	

NOTIFICATION DATE	DELIVERY MODE
01/07/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/599,314	SUGIMOTO ET AL.	
	Examiner	Art Unit	
	DIMPLE BODAWALA	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 17-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 17-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/1/2010*
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in JAPAN on 4/1/2004. It is noted, however, that applicant has not filed a certified copy of the JP 2004-108999 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama et al. (WO 2004/010452) in view of Slaughter, Jr. (US 5,462,702) and further in view of Hou (NPL: Stamp forming of continuous glass fiber reinforced polypropylene, published on 1/20/1997).

4. Yokoyama et al. ('452) discloses a flexible mold comprising a support (1) (See abstract), wherein support comprises suitable plastic material which may be used either as a single layered film or as a composite or laminate film of two or more kinds in combination (See page 8 lines 19-25). It further teaches that the mold comprises a molding layer (11) as a shape imparting surface layer disposed on the support (1) (See abstract), wherein the molding layer (11) having groove pattern (4) and protrusion (2) are formed of photo-curable resin (See page 5 lines 10-12; page 9 lines 12-19; and page 9 line 30 through page 10 line 9; figures 3-4). It further teaches that the molding layer (11) is substantially uniformly made of a curable material (such as curable oligomer or curable monomer), such as, photo-curable material (See page 10 lines 10-25; page 11 lines 4-12). It further teaches that the flexible mold is useful for manufacturing various microstructures (See page 13 lines 10-11; example 1), wherein such statement indicates that the shape imparting surface layer is microstructred as claimed.

5. Yokoyama et al. ('452) teaches that the support of the mold is a hygroscopic plastic film, such as, PET, PEN, stretched polypropylene, polycarbonate and triacetate, wherein the plastic film may be used either as a single layered film or as a composite or

laminate film of two or more kinds in combination (See page 8 lines 19-25), wherein Yokoyama et al. ('452) fails to teach or suggest that a composite material of support consisting of a polymeric material and a reinforcing material as claimed.

6. Slaughter, Jr. ('402) discloses a flexible mold (31) comprises a support consisting of composite material layers (23, 25, 27) of polymeric or resilient material (23, 27) and a reinforcing material (25), such as, woven fiberglass or any sort of fibrous (See col.3 lines 51-57 figures 5-8; col.4 lines 9-25), but fails to teach or suggest that the support comprising composite of PP and glass fiber.

7. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the composite support layer of flexible mold of **Yokoyama et al. ('452)** by providing fiber reinforced polymeric material, wherein properties of fiber reinforced polymeric material of flexible mold enable to give complete dimensional stability for flexible mold which would be required to for the mold to function properly in the surface texture replication process (See col.3 lines 52-57) as taught by **Slaughter, Jr. ('402)**.It is not necessary that the prior art suggests expressly or in so many words the changes or possible improvements the inventor made but that the knowledge is clearly present. In re Sernaker, 217 USPQ 1 (Fed. Cir. 1983).

8. **Hou** discloses a thermoforming technique for forming stamp (or known as mould) consisting of **glass fiber reinforced polypropylene** (See abstract; Introduction), wherein composite comprises **glass fiber in an amount of 33 % volume** (See section of Material). Furthermore, Instant application describes that hydroscopic swelling coefficient of mold is related to alter the composition of support of mold by inclusion of 20-70% volume of a reinforcing material blended with the polymeric material (See Applicant's remark; and example 1 described within the disclosure of the instant application), and on the other hand, disclosure of Hou indicates the fraction of composite material (glass fiber reinforced PP) of mold or stamp in within the claimed range, and therefore, such statement inherently indicates that the mold comprised of a fiber

reinforced polymeric material (PP) is capable to have a coefficient of hydroscopic swelling per percent relative humidity in claimed range. If not, so as we know that the claiming of new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable, In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977), thus, in this case, unknown property (such as coefficient of hydroscopic swelling) of glass fiber reinforced PP material is inherently present in Hou based the fraction of composite material of mold as discussed above. It is not necessary that the prior art suggests expressly or in so many words the changes or possible improvements the inventor made but that the knowledge is clearly present. In re Sernaker, 217 USPQ 1 (Fed. Cir. 1983).

9. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the composite material of support of the flexible mold of **Yokoyama et al. ('452) and/or Slaughter, Jr. ('402)** by providing glass fiber reinforced polypropylene as taught by **Hou (NPL)** because such composite material enable having excellent properties, such as, enhanced tensile strength and flexural modulus, adhesion, toughness, etc. compared to the composite material of flexible mold of **Yokoyama et al. ('452) and/or Slaughter, Jr. ('402)**, wherein demonstrated properties of the composite material (glass fiber reinforced PP) allows the user to design the material based on end-use requirements within a framework of cost, and, thus, the designed article would be used in varied application as per requirement. The substitution of one known element for another yields predictable results to one of ordinary skill in the art. In this case, the use of glass fiber reinforced polypropylene of secondary art as composite material (such as resilient material and/or thermoplastic material and reinforced material (fiber)) of support of flexible mold of **Yokoyama et al. ('452) and/or Slaughter, Jr. ('402)** would provide predictable results of composite material effectively, wherein such modification of mold enable to exhibit with improved properties, such strength, flexibility, hydroscopic swelling ratio, etc. , see In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982); In re

O'Farrell, 853 F.2d 894, 7 USPQ2d 1673 (fed. Cir.1988); Ruiz v. Chance Co., 357 F.3d 1270, 69 USPQ2d1686 (Fed. Cir. 2004). It is not necessary that the prior art suggests expressly or in so many words the changes or possible improvements the inventor made but that the knowledge is clearly present. In re Sernaker, 217 USPQ 1 (Fed. Cir. 1983).

10. **Claims 1-2, 8-10 and 17-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over HOU (NPL: Stamp forming of continuous glass fiber reinforced polypropylene, previously recorded).**

11. HOU discloses an invention related to form stamp, wherein mold comprises composite material which includes eight layers of glass fiber reinforced polypropylene material, wherein glass fiber is in approximately 33% volume fraction (See page 2, section of material), thus, such feature would be used as support material. It further teaches that the mold comprises mold surface, which could be used as a shape imparting surface layer. Furthermore, Instant application describes that hydroscopic swelling coefficient of mold is related to alter the composition of support of mold by inclusion of 20-70% volume of a reinforcing material blended with the polymeric material (See Applicant's remark; and example 1 described within the disclosure of the instant application), and on the other hand, disclosure of Hou indicates the fraction of composite material (glass fiber reinforced PP) of mold or stamp in within the claimed range, thus, one of ordinary skill in the art would be recognized from the above statement that the claimed limitation of hydroscopic swelling coefficient of mold of instant application would be inherently present within the knowledge of the reference HOU. The claiming of new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable, In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977), thus, in this case, unknown property (such as coefficient of hydroscopic swelling) of glass fiber reinforced PP material is inherently present in Hou based the volume fraction of composite material of mold as discussed above. It is not necessary that the prior art suggests expressly or in so many words the changes or

possible improvements the inventor made but that the knowledge is clearly present. In re Sernaker, 217 USPQ 1 (Fed. Cir. 1983).

Response to Arguments

12. Applicant's arguments see Remarks, filed on 11/1/2010, with respect to objection of IDS and rejection of claims under 35 USC 102 have been fully considered and are persuasive, and therefore, they have been withdrawn.

13. For YOKOYAMA et al. (WO 2004/010452), wherein Applicant argues that YOKOYAMA et al. ('452) describes a flexible mold comprising a support made of a material having a tensile strength of at least 5 kg/mm^2 and containing moisture to saturation at a temperature and a relative humidity at the time of use by moisture treatment applied in advance...Applicant argues that Yokoyama et al. concerns reducing the dimensional change of the flexible mold by altering the moisture content of the support as a function of temperature and relative humidity, and in contrast, instant application concerns reducing the dimensional change of the flexible mold by altering the composition of support by inclusion of 20-70% volume of a reinforcing material blended with the polymeric material. Applicant further argues that support material utilized in Yokoyama et al.. PET film having a thickness of 188 micrometer is comparable to the support material described in comparative example 5 of the instant application, wherein the hydroscopic swelling if 8ppm/%RH.

14. Applicant's arguments are moot in view of New Ground of Rejection as discussed above.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIMPLE BODAWALA whose telephone number is (571)272-6455. The examiner can normally be reached on Monday - Friday at 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOSEPH S. DEL SOLE can be reached on (571) 272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. B./
Examiner, Art Unit 1743

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 1743